UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/025,155	12/18/2001	William Emil Heinz	85085	8465

24628 7590 02/05/2007

WELSH & KATZ, LTD
120 S RIVERSIDE PLAZA
22ND FLOOR
CHICAGO, IL 60606

EXAMINER	
PHAN, DAO LINDA	
ART UNIT	**PAPER NUMBER**
3662	

MAIL DATE	DELIVERY MODE
02/05/2007	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

1. The senior party is Heinz et al.

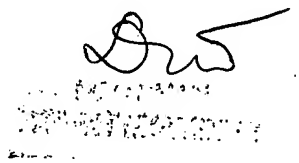
Heinz et al have the earlier filing date than Singer et al.

2. The interference claims are patentable.

3. The interference claims are fully supported by their disclosures.

4. The application claims are in compliance with the 1 year requirement of 35 USC 135(b) because the request for interference and the accompanying 37C.F.R. 1.607(a)(4) amendment are being submitted prior to one year from the issue date of Pat. 6,239,744.

5. Each claim of the patent/application do correspond to the count because none was patentably distinct from the proposed count.



Form PTO-850-(Rev. 07-10-2001)	**INTERFERENCE INITIAL MEMORANDUM**	Count #_____

To the Board of Patent Appeals and Interferences:

An interference is proposed involving the following 2 parties—

PARTY	APPLICATION NO.	FILING DATE	PATENT NO., IF ANY	ISSUE DATE, IF ANY
Heinz et al.	10/025,155	18 December 2001		

If the involved case is a patent, have its maintenance fees been paid? Yes ____ No ____ Not due yet _____

Proposed priority benefit (list all intervening applications necessary for continuity):

COUNTRY	APPLICATION NO.	FILING DATE	PATENT NO., IF ANY	ISSUE DATE, IF ANY
US	09/713,614	15 November 2000	6,346,924	12 February 2002
US National Stage International	08/817,445 PCT/NZ95/00106	30 April 1997 16 October 1995	6,198,458	6 March 2001
NZ	272778	15 August 1995		
NZ	264864	4 November 1994		

The claim(s) of this party corresponding to this count: ~~22 through 63~~ 22-45, 47-56, 58-63

PATENTED OR PATENTABLE PENDING CLAIMS	UNPATENTABLE PENDING CLAIMS
~~22 through 63~~ 22-45, 47-56, 58-63	None

The claim(s) of this party NOT corresponding to this count: None Pending

PATENTED OR PATENTABLE PENDING CLAIMS	UNPATENTABLE PENDING CLAIMS
None Pending	None Pending

PARTY	APPLICATION NO.	FILING DATE	PATENT NO., IF ANY	ISSUE DATE, IF ANY
Singer et al.	09/343,088	30 June 1999	6,239,744	29 May 2001

If the involved case is a patent, have its maintenance fees been paid? Yes ____ No ____ Not due yet X

Proposed priority benefit (list all intervening applications necessary for continuity):

COUNTRY	APPLICATION NO.	FILING DATE	PATENT NO., IF ANY	ISSUE DATE, IF ANY

The claim(s) of this party corresponding to this count: 1 through 48

PATENTED OR PATENTABLE PENDING CLAIMS 1 through 48	UNPATENTABLE PENDING CLAIMS

The claim(s) of this party NOT corresponding to this count: None

PATENTED OR PATENTABLE PENDING CLAIMS None	UNPATENTABLE PENDING CLAIMS None

(Check off each step, if applicable) *INSTRUCTIONS*

- 1. Obtain all files listed above.
- 2. Confirm that the proposed involved claims are still active and all corrections and entered amendments have been considered. The patents must not be expired for, among other things, failure to pay a maintenance fee (Check PALM screen 2970).
- 3. If one of the involved files is a published application or a patent, check for compliance with 35 U.S.C. 135(b).
- 4. Obtain a certified copy of any foreign benefit documents where necessary (37 CFR 1.55(a)).
- 5. Discuss the proposed interference with an Interference Practice Specialist in your Technology Center.

DATE	PRIMARY EXAMINER (signature)	ART UNIT	TELEPHONE NO.
9/12/06		3662	(571) 272-6976
DATE	INTERFERENCE PRACTICE SPECIALIST or TECHNOLOGY CENTER DIRECTOR (signature)		TELEPHONE NO.
			Page ___ of ___

Form PTO-850-(Rev. 01-10-2001)	**INTERFERENCE INITIAL MEMORANDUM**	Count #_____

To the Board of Patent Appeals and Interferences:

An interference is proposed involving the following 2 parties—

PARTY	APPLICATION NO.	FILING DATE	PATENT NO., IF ANY	ISSUE DATE, IF ANY
Heinz et al.	10/025,155	18 December 2001		

If the involved case is a patent, have its maintenance fees been paid? Yes ____ No ____ Not due yet _____

Proposed priority benefit (list all intervening applications necessary for continuity):

COUNTRY	APPLICATION NO.	FILING DATE	PATENT NO., IF ANY	ISSUE DATE, IF ANY
US	09/713,614	15 November 2000	6,346,924	12 February 2002
US National Stage International	08/817,445 PCT/NZ95/00106	30 April 1997 16 October 1995	6,198,458	6 March 2001
NZ	272778	15 August 1995		
NZ	264864	4 November 1994		

The claim(s) of this party corresponding to this count: ~~22 through 63~~ 22-45, 47-56, 58-63

PATENTED OR PATENTABLE PENDING CLAIMS	UNPATENTABLE PENDING CLAIMS
~~22 through 63~~ 22-45, 47-56, 58-63	None

The claim(s) of this party NOT corresponding to this count: None Pending

PATENTED OR PATENTABLE PENDING CLAIMS	UNPATENTABLE PENDING CLAIMS
None Pending	None Pending

PARTY	APPLICATION NO.	FILING DATE	PATENT NO., IF ANY	ISSUE DATE, IF ANY
Singer et al.	09/817,268	27 March 2001	6,677,896	13 January 2004

If the involved case is a patent, have its maintenance fees been paid? Yes ____ No ____ Not due yet X

Proposed priority benefit (list all intervening applications necessary for continuity):

COUNTRY	APPLICATION NO.	FILING DATE	PATENT NO., IF ANY	ISSUE DATE, IF ANY

The claim(s) of this party corresponding to this count: 1 through 32	
PATENTED OR PATENTABLE PENDING CLAIMS 1 through 32	UNPATENTABLE PENDING CLAIMS
The claim(s) of this party NOT corresponding to this count: None	
PATENTED OR PATENTABLE PENDING CLAIMS None	UNPATENTABLE PENDING CLAIMS None

(Check off each step, if applicable) ***INSTRUCTIONS***

- 1. Obtain all files listed above.
- 2. Confirm that the proposed involved claims are still active and all corrections and entered amendments have been considered. The patents must not be expired for, among other things, failure to pay a maintenance fee (Check PALM screen 2970).
- 3. If one of the involved files is a published application or a patent, check for compliance with 35 U.S.C. 135(b).
- 4. Obtain a certified copy of any foreign benefit documents where necessary (37 CFR 1.55(a)).
- 5. Discuss the proposed interference with an Interference Practice Specialist in your Technology Center.

DATE	PRIMARY EXAMINER (signature)	ART UNIT	TELEPHONE NO.
9/12/06		3662	(571)272-6976
DATE	INTERFERENCE PRACTICE SPECIALIST or TECHNOLOGY CENTER DIRECTOR (signature)		TELEPHONE NO.

Count claims:

In the claims:

Claims 1-21 (canceled).

22. (previously presented) An antenna control system for a land-based mobile radio system comprising:

a sensor for detecting a position of a down-tilt antenna with respect to cell coverage and without respect to a satellite position;

an antenna controller communicating with said sensor for controlling said antenna position; and

a main controller communicating with said antenna controller in order to control said antenna controller.

23. (previously presented) The antenna control system according to claim 22, wherein said main controller is remotely located from said down-tilt antenna.

24. (previously presented) The antenna control system according to claim 22, further comprising a user interface communicating with said main controller to operate said main controller.

25. (previously presented) The antenna control system according to claim 23, wherein a user interface transmits data to said main controller to position said down-tilt antenna and receives data from said main controller indicating said antenna position.

26. (previously presented) The antenna control system according to claim 25, wherein said main controller informs said user interface that said main controller is unable to communicate with said antenna controller.

27. (previously presented) The antenna control system according to claim 25, wherein said main controller informs said user interface that it is unable to adjust said antenna position to a desired antenna position.

28. (previously presented) The antenna control system according to claim 22, further comprising an antenna controller memory connected to said antenna controller for storing at least one of an antenna address and said antenna position.

29. (previously presented) The antenna control system according to claim 22, further comprising a main controller memory connected to said main controller for storing at least one of an antenna address and said antenna position.

30. (previously presented) The antenna control system according to claim 22, further comprising:

a motor for adjusting said antenna position; and

a driver connected to said motor and said antenna controller for activating said motor.

31. (previously presented) An antenna control system for controlling a plurality of antennas comprising:

a plurality of sensors each for detecting positions of a respective one of said antennas;

a plurality of antenna controllers each communicating with corresponding sensors of said plurality of sensors for controlling a position of said associated antenna; and

a main controller communicating with said antenna controllers in order to control said antenna controllers.

32. (previously presented) The antenna control system according to claim 31 further comprising a serial interface connecting said main controller and said antenna controllers.

33. (previously presented) The antenna control system according to claim 31 further comprising a parallel interface connecting said main controller to each of said antenna controllers.

34. (previously presented) The antenna control system according to claim 31, further comprising a wireless communication interface including a plurality of transceivers individually connected to respective antenna controllers of said plurality of antenna controllers and a transceiver connected to said main controller for providing communications between said plurality of antenna controllers and said main controller.

35. (previously presented) The antenna control system according to claim 31, further comprising a plurality of antenna controller memories, wherein each antenna controller memory is respectively connected to each of said plurality of antenna controllers for storing at least one of an antenna address and said antenna position.

36. (previously presented) The antenna control system according to claim 31, further comprising a main controller memory connected to said main controller for storing at least one of an antenna address, and said antenna position.

37. (previously presented) The antenna system according to claim 31, further comprising:

a plurality of motors each for adjusting said position of the associated antennas; and

a driver connected to each of said plurality of motors for driving said plurality of motors.

38. (previously presented) An antenna control system for controlling a plurality of antennas located on a tower, each antenna having a position, said antenna control system comprising:

a plurality of sensors, each sensor associated with one of said plurality of antennas for detecting said antenna positions;

a plurality of antenna controllers each connected to a respective one of said plurality of sensors for reading said detected antenna positions and for adjusting said antenna positions based on said detected antenna positions; and

a main controller communicating with said plurality of antenna controllers for controlling said plurality of antenna controllers to adjust said antenna positions.

39. (previously presented) An antenna control system according to claim 38, wherein said main controller is remotely located from said plurality of antenna controllers.

40. (previously presented) An antenna control system according to claim 38, wherein said main controller is remotely located from said tower.

41. (previously presented) The antenna control system according to claim 38, further comprising, a plurality of motor driving assemblies for adjusting said antenna positions, wherein each of said plurality of motor driving assemblies are controlled by respective ones of said plurality of antenna controllers.

42. (previously presented) The antenna control system according to claim 41, wherein the motor driving assemblies comprise a gear train of phase shifters to steer radiation emitted from said antennas; a stepper motor to drive said gear train of phase shifters; a gear shaft disposed between said gear train and said stepper motor; and a stepper-motor-driver for powering said stepper motor.

43. (previously presented) A method of positioning a down-tilt antenna in an antenna control system used in land-based mobile communications, said antenna control system including a main controller, an antenna controller, an antenna motor driver assembly, and a sensor, said method comprising:

(A) establishing a current position of said down-tilt antenna by;

(i) sending an antenna check command to said antenna controller,

(ii) reading a tilt position stored in a memory of said antenna controller, and

(iii) sending the tilt position read from said memory to said main controller; and

(B) adjusting the tilt of the down-tilt antenna by;

(i) sending a change-tilt command to said main controller,

(ii) calculating a difference between said tilt position and said change-tilt command to determine an antenna adjust command, and

(iii) sending said antenna adjust command to said antenna motor driver assembly to adjust the tilt of the down-tilt antenna.

44. (previously presented) The method according to claim 43, wherein step (B) further comprises,

(iv) reading the newly adjusted tilt position of said antenna via said sensor, and

(v) writing said newly adjusted tilt position as said tilt position in said memory of said antenna controller.

45. (previously presented) A method of performing a system check on a tilt antenna control system having a main controller, a plurality of antenna controllers, and a user interface, said method comprising:

(A) requesting a system check by a user via said user interface;

(B) transmitting an antenna check command from said main controller to an addressed one of said plurality of antenna controllers;

(C) returning an antenna position from said addressed antenna controller to said main controller; and

(D) determining whether the addressed antenna controller responded.

46. (canceled)

47. (previously presented) An antenna control system comprising:

a sensor for detecting a position of a down-tilt antenna without respect to a satellite position;

an antenna controller communicating with said sensor for controlling said antenna position;

a main controller communicating with said antenna controller in order to control said antenna controller; and

a user interface communicating with said main controller to operate said main controller.

48. (previously presented) The antenna control system according to claim 47, wherein the user interface transmits data to said main controller to position said down-tilt antenna and receives data from said main controller indicating said antenna position.

49. (previously presented) The antenna control system according to claim 48, wherein said main controller informs said user interface that said main controller is unable to communicate with said antenna controller.

50. (previously presented) The antenna control system according to claim 48, wherein said main controller informs said user interface that it is unable to adjust said antenna position to a desired antenna position.

51. (previously presented) An antenna control system comprising:

a sensor for detecting a position of a down-tilt antenna without respect to a satellite position;

an antenna controller communicating with said sensor for controlling said antenna position;

a main controller communicating with said antenna controller in order to control said antenna controller, wherein said main controller is remotely located from said down-tilt antenna, and

an antenna controller memory connected to said antenna controller for storing at least one of an antenna address and said antenna position.

52. (previously presented) The antenna control system according to claim 51, further comprising a main controller memory connected to said main controller for storing at least one of an antenna address and said antenna position.

53. (previously presented) The antenna control system according to claim 51, further comprising:

a motor for adjusting said antenna position; and

a driver connected to said motor and said antenna controller for activating said motor.

54. (previously presented) A method of positioning a down-tilt antenna in an antenna control system used in land-based mobile communications, said method comprising the steps of:

(A) establishing a current position of the down-tilt antenna by;

(i) sending an antenna check command to an antenna controller,

(ii) reading a tilt position stored in a memory of the antenna controller, and

(iii) sending the tilt position read from the memory to a main controller; and

(B) adjusting the tilt of the down-tilt antenna by;

(i) sending a change-tilt command to the main controller,

(ii) calculating a difference between the tilt position and the change-tilt command to determine an antenna adjust command, and

(iii) sending the antenna adjust command to an antenna motor driver assembly to adjust the tilt of the down-tilt antenna.

55. (previously presented) The method according to claim 54, wherein step (B) further comprises,

(iv) reading the newly adjusted tilt position of the down-tilt antenna via a sensor, and

(v) writing the newly adjusted tilt position as the tilt position in the memory of the antenna controller.

56. (previously presented) A method of performing a system check on a tilt antenna control system, said method comprising the steps of:

(A) requesting a system check by a user via a user interface;

(B) transmitting an antenna check command from a main controller to an addressed one of a plurality of antenna controllers;

(C) returning an antenna position from the addressed antenna controller to the main controller; and

(D) determining whether the addressed antenna controller responded.

57. (canceled)

58. (previously presented) The antenna control system according to claim 47, wherein the position of the down-tilt antenna is an electrical down-tilt.

59. (previously presented) The antenna control system according to claim 47, wherein the position of the down-tilt antenna is a position of at least one phase shifter.

60. (previously presented) The method according to claim 54, wherein the tilt position is an electrical down-tilt.

61. (previously presented) The method according to claim 54, wherein the tilt position is a position of at least one phase shifter.

62. (previously presented) An antenna control system comprising:

a sensor for detecting a position of components used to down tilt an antenna and by this action determine the down tilt of the antenna;

an antenna controller communicating with said sensor for controlling said antenna position;

a main controller communicating with said antenna controller in order to control said antenna controller, wherein said main controller is remotely located from said antenna,

a user interface communicating with said main controller to operate said main controller, and

an antenna controller memory connected to said antenna controller for storing at least one of an antenna address and said antenna position.

63. (previously presented) The antenna control system according to claim 62, wherein the user interface transmits data to said main controller to position said antenna and receives data from said main controller indicating said position.